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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MYERS, CARLA J	

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/975,036	SHORT ET AL.	
	Examiner	Art Unit	
	Carla Myers	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24,27,29-32,34-46 and 212-216* is/are pending in the application.

4a) Of the above claim(s) *27,29-32,34-40 and 212-216* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24 and 41-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1.This action is in response to the amendment filed 5/12/04. Applicants amendments and response have been fully considered but are not persuasive to overcome all grounds of rejection. All rejections not reiterated herein are hereby withdrawn. This action is made final.

Election/Restrictions

2. Newly submitted claims 212-216 and amended claims 27, 29-32, and 34-40 are directed to an invention that is independent or distinct from the invention originally claimed.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-24, and 41-46, drawn to methods for identifying a polynucleotide by contacting a polynucleotide with a probe, classified in class 435, subclass 6.

II. Claims 27, 29-32, 34-40 and 212-216, drawn to methods for identifying a polynucleotide comprising encapsulating in a microdroplet a plurality of clones and a substrate that is attached to the microdroplet via a biotin-avidin-biotin bridge, classified in class 435, subclass 68.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated in that they are drawn to patentably distinct methods. Each method requires the use of different reagents and involves performing different method steps. In particular, the method of invention I requires the use of a polynucleotide of interest and a probe and requires performing a hybridization assay to detect the presence of a polynucleotide hybridized to a probe. Invention II requires the

use of a substrate that is attached to a microdroplet via a biotin-avidin-biotin bridge and involves the steps of encapsulating in a microdroplet a plurality of clones containing polynucleotides and a biotinylated substrate, wherein the microdroplet is attached to the substrate via a biotin-avidin-biotin bridge, incubating the microdroplet under conditions that allow for the expression of the polynucleotides and detecting fluorescences of a substrate within the microdroplet as indicative of the presence of a polynucleotide. The methods of invention I and II are novel and unobvious over each other.

Because these inventions are distinct for the reasons given above and have acquired a different status in the art as demonstrated by their different classification and recognized divergent subject matter and because inventions I and II require different searches that are not co-extensive, examination of these distinct inventions would pose a serious burden on the examiner and therefore restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Additionally, Applicant's attention is drawn to the restriction

requirement set forth in the Office Action of July 25, 2003. Accordingly, claims 27, 29-32, 34-40 and 212-216 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Terminal Disclaimer

3. The terminal disclaimer filed on 5/12/04 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,174,673 or any patent granted on U.S. Application Serial Nos. 09/738,871 or 09/685,432 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

4. THE FOLLOWING IS A NEW GROUNDS OF REJECTION NECESSITATED BY APPLICANT'S AMENDMENTS TO THE CLAIMS:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-24 and 41-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a New Matter rejection.

The specification as originally filed does not provide basis for the amendment to the claims to recite "naturally occurring polynucleotides." The specification teaches

hybridization methods which identify polynucleotides in general. However, the specification does not specifically teach the concept of detecting only "naturally occurring polynucleotides." The general teachings in the specification of identifying polynucleotides does not provide support for the more specific concept of detecting a naturally occurring polynucleotide. If Applicants traverse this rejection, Applicants should point to specific lines / pages of the specification which provide support for the embodiment of a method which identifies "naturally occurring polynucleotides."

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-24, and 41-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claim 43 is indefinite over the phrase "encodes a small molecule." The term small is a relative term, yet the claim does not set forth what the molecule is small in comparison to. The term "small" is not defined in the specification and the phrase "small molecule" does not have a defined meaning in the art. Accordingly, one cannot determine the meets and bounds of the claimed subject matter.

RESPONSE TO ARGUMENTS:

In the response filed May 12, 2004, Applicants traversed this rejection by stating that this phrase is used in the specification and is not intended to refer to a specific size of a molecule. It is asserted that one of skill in the art would know that this phrase

distinguishes chemical molecules or complexes, such as non-proteinaceous enzymes, from molecules containing amino acids or nucleic acids.

Applicant's arguments have been fully considered but are not persuasive to overcome the present grounds of rejection. While the phrase "small molecule" is referred to in the specification, the specification and art do not provide a fixed and clear definition for this phrase. There are no teachings in the specification or art which would indicate that the phrase is intended to exclude nonproteinaceous molecules or is intended to include only molecules that contain amino acids or nucleotides. Applicants response has discussed particular embodiments which applicants believe one might understand to include or exclude "small molecules." However, Applicants have not provided any evidence to show that those skilled in the art recognize that the phrase "small molecules" has a fixed and well known meaning in the art.

B. THE FOLLOWING IS A NEW GROUNDS OF REJECTION NECESSITATED BY APPLICANT'S AMENDMENTS TO THE CLAIMS:

Claims 1-24 and 41-46 are indefinite over the recitation of "naturally occurring polynucleotide." The specification as originally filed does not provide a fixed definition for this phrase and it is unclear as to what is intended to be encompassed by this phrase. The claims allow for naturally occurring polynucleotides that are in a library. In order for the polynucleotide to be present a library, the polynucleotide must, at minimum, be removed from a cell source, ligated to a vector and then inserted into a host cell. The process may also involve nonspecific fragmentation or digestion with a restriction enzyme and/or purification from other cellular components. Polynucleotides

treated in such a manner are not generally considered to be "naturally occurring." It is unclear as to whether a naturally occurring polynucleotide includes, for example, only wild-type polynucleotides, or only polynucleotides that exist in the same state as it would exist in nature (i.e., not removed from its natural surroundings) or only polynucleotides which are not concatenated or only polynucleotides whose sequences are not modified following purification/isolation of the polynucleotide. Accordingly, one cannot determine the meets and bounds of the claimed invention.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 15, 16, 19-24 and 41-46 rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al (U.S. Patent NO. 5,824,485).

Thompson teaches a method for detecting a polynucleotide wherein the method comprises contacting a plurality of polynucleotides derived from at least one organism with a detectably labeled probe under hybridization conditions and identifying hybridization between the probe and the polynucleotide as indicative of the presence of the polynucleotide of interest (see, for example, column 37: "The combinatorial gene expression libraries of the invention may be pre-screened or screened by a variety of

methods, including but not limited to, visual inspection, automated image analysis, hybridization to molecular beacon DNA probes (Tyagi et al. 1996, Nature Biotechnol, 14:303-308), fluorescence activated cell sorting (FACS) and magnetic cell sorting (MACS)"; see also columns 31-32, section 5.1.6; and column 41, section 5.3.5: "(t)he isolated double-stranded DNA representing non-primary metabolism related genes may then be labeled using random priming, and used as a probe to pre-screen the library.")

With respect to claims 2-5 and 19-22, Thompson (column 26) teaches that "(t)he present invention relates to the construction and uses of combinatorial gene expression libraries, wherein the host organisms contain genetic material encoding natural biochemical pathways or portions thereof that is derived from a plurality of species of donor organisms, and are capable of producing functional gene products of the donor organisms. Biochemical pathways or portions thereof are thus functionally reconstituted in individual host organisms of a library." At column 12, Thompson states that any eukaryotic or prokaryotic organism or virus can be a donor organism for the purpose of preparing combinatorial gene expression libraries and in particular the libraries may be prepared from environmental samples, such as soil and marine sediments (column 13).

With respect to claim 15 and 16, Thompson teaches using FACS or magnetic cell sorting (MACS) to detect the detectable molecule (see column 33, 35 and 37).

With respect to claims, 23 and 24, Thompson teaches that the library may be prepared from an extremophile such as an acidophile, halophile or thermophile (see column 14).

With respect to claims 41-46, Thompson (columns 9-10) states that "gene expression libraries comprising complete naturally occurring biochemical pathways or substantial portions thereof can greatly facilitate searches for donor multi-enzyme systems responsible for making compounds or providing activities of interest. Further, claim 9 of Thompson states that the polynucleotide of interest may comprise one or more operons or portions thereof of the donor microorganism. In particular, with reference to claim 46, Thompson teaches that the libraries contain polynucleotides encoding proteins of the bacterial polyketide synthases (PKSs) pathway (see column 4, paragraph 2).

RESPONSE TO ARGUMENTS:

In the response filed May 12, 2004, Applicants traverse this rejection by stating that Thompson does not teach identifying naturally occurring polynucleotides. It is argued that Thompson teaches identifying polynucleotides present in a combinatorial gene expression library and that by definition such libraries contain polynucleotides that have been altered or pieced together. Applicants assert that the art teaches that combinatorial libraries include libraries containing variants of each subunit gene and that the claimed method differs from that of Thompson in that the claimed method does not require "manipulating the DNA to generate variants." Applicants also assert that combinatorial libraries require ligating genes together to form a gene cluster, but that the present invention requires naturally occurring polynucleotides.

Applicants arguments have been fully considered but are not persuasive to overcome the present grounds of rejection. Applicant's amendment to the claims to

recite "naturally occurring polynucleotides" has been noted. However, this phrase was not defined in the originally filed specification and there is no art fixed definition for this phrase. Since the present claims allow for the inclusion of the polynucleotide in an expression library, the phrase "naturally occurring polynucleotides" has not been interpreted as being limited to polynucleotides that are present in the same state as that which exists in nature. Rather, the claims allow for polynucleotides that have been modified by insertion of the polynucleotide into a vector. Thomspon teaches methods for identifying such polynucleotides. For example, at columns 46 and 59 and claim 19, Thompson teaches making and using expression libraries that contain a cDNA or genomic DNA fragment ligated to an expression construct. While Thompson teaches that one may concatenate the nucleic acid sequences and that one may preselect the nucleic acid sequences, these are only preferred embodiments within the teachings of Thompson. The methods of Thompson allow for the use of "naturally occurring polynucleotides" – i.e., polynucleotides that derived from a cell source and ligated into an expression vector. Accordingly, Thompson teaches methods for detecting polynucleotides wherein the polynucleotides have the same identifying characteristics as the "naturally occurring polynucleotides" of the present invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11, 14-16, 19-24 and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Blumenfeld (US Patent No. 6,228,580).

The teachings of Thompson are presented above. While Thompson teaches labeling probes and particularly teaches labeling probes with molecular beacons, Thompson does not teach the length of such probes and does not specifically teach labeling the probes with a fluorophore or biotinylated substrate.

Blumenfeld teaches that nucleic acid hybridization probes may be of a length of 100 to 1000 nucleotides (see, for example, column 3). The probes may also be of a larger length since large probes confer greater specificity of hybridization (column 3). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used probes of the length of 100 to 1000 or up to 5000 nucleotides or more in the method of Thompson in order to have increased the specificity of hybridization and therefore increased the specificity of the method of detecting a polynucleotide of interest.

Further, Blumenfeld teachings labeling nucleic acid hybridization probes with fluorescent moieties (see for example column 5-6). The reference also teaches using biotinylated probes and probes labeled with biotin-DIG (columns 6-7). Thompson teaches that biotin labeled nucleic acids can be detected using streptavidin or by an anti-biotin antibody coupled to an enzyme (column 6). Nucleotides labeled with biotin and biotin-DIG are considered to be biotinylated substrates. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have labeled the probes of Thompson with the fluorescent or biotin moieties taught by Blumenfeld in order to have facilitated the detection of the probe and thereby the detection of the polynucleotide of interest.

RESPONSE TO ARGUMENTS:

In the response filed May 12, 2004, Applicants traverse this rejection for the same reasons as those stated in paragraph 6 above. Accordingly, the response to those arguments applies equally to the present grounds of rejection. Further, Applicants argue that Thompson teaches a method for reducing the number of clones in a library. It is argued that Thompson does not teach identifying naturally occurring polynucleotides.

Applicants arguments have been fully considered but are not persuasive because the method of Thompson is in fact one for identifying a polynucleotide. The method taught by Thompson includes each of the method steps set forth in the present claims. That is, Thompson teaches a method comprising contacting polynucleotides from at least one organism with a detectably labeled probe and detecting hybridization of a polynucleotide to the probe. Thereby, the method of Thompson is necessarily one

for identifying a polynucleotide. Further, as discussed above, Thompson does teach detection/identification of "naturally occurring polynucleotides" since the polynucleotides detected by the method of Thompson include polynucleotides directly inserted into an expression vector. Additionally, Thompson (column 10) teaches that the genes identified by the disclosed methods can be used "for sequencing, mutation, expression and further rounds of screening."

8. Claims 1-10, 13, 14, 16, 18-24 and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Hefti (US Patent No. 6,340,568).

The teachings of Thompson are presented above. Thompson does not teach the length of the nucleic acid probe and does not teach detecting the nucleic acid by multipole coupling spectroscopy (MCS).

However, Hefti teaches that nucleic acid hybridization probes may be short in length such as 50-100 base pairs long, or may be of a longer length ranging up to 1,000-10,000 nucleotides (see, for example, column 54-55). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used probes of the length of 50-100 to 1,000 or up to 10,000 nucleotides in length in the method of Thompson since Hefti teaches that probes of this length may be used to effectively detect the presence of a polynucleotide of interest.

Additionally, Hefti teaches methods for detecting nucleic acid hybridization between a probe and a complementary target sequence using a method of multipole coupling spectroscopy (see, for example, columns 13-14 and 23). Hefti (columns 25-26) teaches that "(t)he detection and identification of molecular binding events can be

accomplished by detecting and measuring the dielectric properties at the molecular level. The dielectric properties at the molecular level can be defined by the molecule's multipole moments." The reference teaches that while MCS can be performed using labeled probes, labeling of probes with additional moieties, such as fluorophores, is not necessary. If the probes are not labeled with moieties such as fluorophores, this provides the advantage of avoiding steric hindrance caused by the presence of the label and prevents background signal that results from incomplete removal of unbound labeled probes (see column 47). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Thompson so as to have detected hybridization between the probe and the polynucleotide of interest using the multipole coupling spectroscopy method of Hefti in order to have achieved the advantages set forth by Hefti of generating a highly effective and sensitive method for detecting the presence of a target polynucleotide of interest.

RESPONSE TO ARGUMENTS:

In the response filed May 12, 2004, Applicants traverse this rejection for the same reasons as those stated in paragraph 6 above. Accordingly, the response to those arguments applies equally to the present grounds of rejection. Further, Applicants state that Hefti does not teach or suggest methods for screening a library of naturally occurring polynucleotides to identify a polynucleotide encoding a novel enzyme "as defined by amended claim 1 and claims dependent thereon." However, it is first noted that the claims are not in fact limited to methods for identifying a polynucleotide encoding a "novel" enzyme. Further, Hefti was not cited for teaching such an

embodiment. Rather, Hefti was cited for teaching appropriate lengths for nucleic acid probes and for teaching methods for detecting a nucleic acid by multipole coupling spectroscopy (MCS).

9. Claims 1-17, 19-24 and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Blumenfeld (US Patent No. 6,228,580) and further in view of Baselt (U.S. Patent No. 5,981,297).

The teachings of Thompson and Blumenfeld are presented above. The combined references do not teach labeling the nucleic acid probe with a magnetic molecule and do not teach detection of the nucleic acid probe with a Super Conducting Quantum Interference (SQUID) device.

However, Baselt teaches labeling nucleic acid probes with magnetic molecules and detecting hybridization of probes to polynucleotides of interest using SQUID (see column 2-4). Baselt teaches that the magnetic field sensors of the SQUID device provide for an increase in sensitivity several orders of magnitude higher than conventional detection methods (see column 4). The method is also faster than conventional detection methods and can be automated.

In view of the teachings of Baselt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Thompson so as to have labeled the probes with magnetic molecules and to have detected hybridization of the probe to complementary nucleic acids using SQUID in order to have achieved the benefits set forth by Baselt of providing a faster, more

sensitive method for detecting a polynucleotide of interest, wherein the method could be automated.

RESPONSE TO ARGUMENTS:

In the response filed May 12, 2004, Applicants traverse this rejection for the same reasons as those stated in paragraph 6 above. Accordingly, the response to those arguments applies equally to the present grounds of rejection. Further, Applicants state that Baselt does not teach or suggest methods for screening a library of naturally occurring polynucleotides to identify a polynucleotide of interest. However, Baselt was not cited for teaching methods for identifying a naturally occurring polynucleotide. Rather, as set forth above, Baselt was cited for teaching methods of labeling nucleic acid probes with a magnetic molecule and methods of detecting nucleic acid probes using a Super Conducting Quantum Interference (SQUID) device.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carla Myers whose telephone number is (571) 272-0747. The examiner can normally be reached on Monday-Thursday from 6:30 AM-5:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (571)-272-0782.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Carla Myers
July 19, 2004

CARLA J. MYERS
PRIMARY EXAMINER